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10/829,178	04/22/2004	Takashi Suda	Q81051	6041

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EXAMINER	
RENNER, CRAIG A	
ART UNIT	PAPER NUMBER
2627	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,178	SUDA, TAKASHI	
	Examiner	Art Unit	
	Craig A. Renner	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 May 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 17 May 2007. These drawings are accepted.

Specification

2. The disclosure is objected to because of the following informalities:

a. In lines 8 and 10 of claim 1, line 2 in each of claims 14-17, and line 1 of claim 21, each instance of "said DC erase head" should be changed to --said DC erase head means-- in order to more clearly refer back to that set forth in line 2 of independent claim 1.

b. In lines 8 and 10-11 of claim 1, and line 2 of claim 21, each instance of "said servo write head" should be changed to --said servo write head means-- in order to more clearly refer back to that set forth in line 5 of independent claim 1.

Appropriate correction is required.

3. The use of the trademarks "PERMALLOY, SENDUST, [and] ALPERM" have been noted in this application. See line 5 of the third paragraph on page 9 (as amended) and line 3 in each of claims 14-17 (as amended). They should be accompanied by their generic terminology at least once in the specification. For

instance, --PERMALLOY (NiFe alloy), SENDUST (FeAlSi alloy), ALPERM (FeAl alloy)-- would suffice.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 3 in each of claims 14-17, the use of the trademarks/trade names "PERMALLOY, SENDUST, [and] ALPERM" is indefinite. A trademark/trade name is used to identify a source of goods, and not the goods themselves. Therefore, the scope of the claims cannot be ascertained as the particular material or product identified by the trademark/trade name may vary since the trademark/trade name cannot be used properly to identify any particular material or product. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). If the specification were amended in the manner detailed in paragraph 3, supra, then the generic terminology

would serve as a definition for each of the trademarks and the scope of the claims could be ascertained. Claims 14-17 would then be definite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3, 4, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Rothermel et al. (US 2005/0219734).

Rothermel et al. (US 2005/0219734) teaches a combined magnetic head (FIG. 6, for instance) comprising DC erase head means (includes 83 and 86, for instance, in at least an equivalent structural sense, see also lines 8-10 in paragraph [0075] on page 8, and lines 3-5 in paragraph [0052] on page 5 taken in conjunction with lines 1-4 in paragraph [0032] on page 3, for instance) for magnetizing a servo band of a magnetic tape (lines 1-5 in paragraph [0052] on page 5); and servo write head means (includes 85 and 88, for instance, in at least an equivalent structural sense, see also lines 8-10 in paragraph [0075] on page 8, and lines 5-7 in paragraph [0052] on page 5 taken in conjunction with lines 1-2 in paragraph [0033] on page 3, for instance) for magnetizing a servo signal (lines 1-7 in paragraph [0052] on page 5, for instance), and for writing the

servo signal on the servo band (lines 1-7 in paragraph [0052] on page 5, for instance), wherein the DC erase head and the servo write head are integrally configured through a non-magnetic body (lines 7-16 in paragraph [0064] on page 6, and lines 15-19 in paragraph [0050] taken in conjunction with lines 14-19 in paragraph [0047] on page 5, for instance), and wherein a DC erase head gap (83) of the DC erase head and a servo write head gap (85) of the servo write head are aligned (as shown in FIG. 6 taken in conjunction with FIG. 1 and lines 3-7 in paragraph [0052] on page 5, for instance) [as per claim 1]; wherein a first base member (88) has a coil groove (adjacent 92, for instance) where a coil (92) is wound, and on an inner circumference face thereof, a magnetic layer (87) is formed [as per claims 3 and 4]; and wherein the DC erase head is located upstream of the servo write head (as shown in FIG. 6, for instance) [as per claim 21].

With respect to the intended use limitations appearing throughout independent claim 1, for instance, note that a recitation with respect to the manner in which a claimed apparatus (i.e., "combined magnetic head") is intended to be employed (i.e., with a "magnetic tape", for instance) does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations, *Ex parte Masham*, 2 USPQ2d 1647 (PTO BPAI 1987). As the claims are only drawn to a "combined magnetic head," per se, the limitations with respect to the "magnetic tape" can only be accorded weight to the extent that they effect the structure of the combined magnetic head.

As the claims are directed to a "combined magnetic head", per se, the method limitations appearing in lines 11-12 of independent claim 1 and line 3 in each of claims 3 and 4 can only be accorded weight to the extent that they affect the structure of the completed combined magnetic head. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process [i.e., "simultaneously formed with one mask by a photolithography method," "formed by a sputtering method" and "formed by a plating method," for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process", *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., "simultaneously formed with one mask by a photolithography method," "formed by a sputtering method" and "formed by a plating method," for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations", *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1 and 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yip et al. (US 2004/0120061) in view of Inagoya et al. (US 5,057,955).

Yip et al. (US 2004/0120061) teaches a combined magnetic head (Figure 4, for instance) comprising DC erase head means (includes 10 (mislabeled 19 in the drawings) and 11, for instance, in at least an equivalent structural sense) for magnetizing a servo band of a magnetic tape (12); and servo write head means (includes 13 and 14, for instance, in at least an equivalent structural sense) for magnetizing a servo signal, and for writing the servo signal on the servo band (line 9 in paragraph [0023] on page 2, for instance), wherein a DC erase head gap of the DC erase head and a servo write head gap of the servo write head are aligned (lines 9-14 in paragraph [0023] on page 2, for instance) [as per claims 1, 5, 8, 11, 14, and 17-18]; wherein a first base member has a coil groove where a coil is wound (as shown in Figure 4, for instance) [as per claims 3-4, 6-7, 9-10, 12-13, 15-16, and 19-20]; and wherein the DC erase head is located upstream of the servo write head (lines 9-14 in paragraph [0023] on page 2, for instance) [as per claim 21].

With respect to the intended use limitations appearing throughout independent claim 1, for instance, note that a recitation with respect to the manner in which a claimed apparatus (i.e., "combined magnetic head") is intended to be employed (i.e., with a "magnetic tape", for instance) does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See *Ex parte Masham*, supra. As the claims are only drawn to a "combined magnetic head," per se, the

limitations with respect to the "magnetic tape" can only be accorded weight to the extent that they effect the structure of the combined magnetic head.

As the claims are directed to a "combined magnetic head", per se, the method limitations appearing in lines 11-12 of independent claim 1 and line 3 in each of claims 3 and 4 can only be accorded weight to the extent that they affect the structure of the completed combined magnetic head. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process [i.e., "simultaneously formed with one mask by a photolithography method," "formed by a sputtering method" and "formed by a plating method," for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process." See *In re Thorpe, et al.*, supra. Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., "simultaneously formed with one mask by a photolithography method," "formed by a sputtering method" and "formed by a plating method," for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations." See *In re Hirao and Sato*, supra.

Yip et al. (US 2004/0120061), however, remains silent as to the DC erase head and the servo write head being "integrally configured through a non-magnetic body" as per claim 1, the combined magnetic head further comprising a "magnetic layer" on an "inner circumference face thereof" as per claims 3-4, each gap material being "silica" as

per claims 5-13, the head material being "any of PERMALLOY, SENDUST, ALPERM, and an amorphous alloy" as per claims 14-17, and the non-magnetic body material being "any of AlTiC, calcium titanate, and non-magnetic ferrite" as per claims 18-20.

Inagoya et al. (US 5,057,955) teaches heads (1 and 2) being integrally configured through a non-magnetic body (3) in the same field of endeavor for the purpose of maintaining alignment while avoiding magnetic interaction therebetween (as shown in FIG. 4, for instance, and as disclosed in lines 19-21 in column 1, for instance). Inagoya et al. (US 5,057,955) also teaches a combined magnetic head (FIG. 10, for instance) further comprising a magnetic layer (31) on an inner circumference face thereof in the same field of endeavor for the known purpose of improving recording characteristics. Inagoya et al. (US 5,057,955) further teaches that silica is a notoriously old and well known gap material in the art (lines 27 and 39-40 in column 1, for instance, i.e., "silicon dioxide" is silica). Inagoya et al. (US 5,057,955) lastly teaches that amorphous alloy is a notoriously old and well known head material in the art (lines 43-47 in column 6, for instance). Official notice is taken of the fact that at least one of AlTiC, calcium titanate, and non-magnetic ferrite is a notoriously old and well known non-magnetic body material in the combined magnetic head art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the DC erase head and the servo write head of Yip et al. (US 2004/0120061) be integrally configured through a non-magnetic body as taught/suggested by Inagoya et al. (US 5,057,955), the combined magnetic head of Yip et al. (US 2004/0120061) further comprise a magnetic layer on an inner circumference face thereof as taught by

Inagoya et al. (US 5,057,955), each gap material of Yip et al. (US 2004/0120061) be silica as taught by Inagoya et al. (US 5,057,955), the head material of Yip et al. (US 2004/0120061) be amorphous alloy as taught by Inagoya et al. (US 5,057,955), and the non-magnetic body material of Yip et al. (US 2004/0120061) in view of Inagoya et al. (US 5,057,955) be any of AlTiC, calcium titanate, and non-magnetic ferrite. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the DC erase head and the servo write head of Yip et al. (US 2004/0120061) be integrally configured through a non-magnetic body as taught/suggested by Inagoya et al. (US 5,057,955) since such maintains alignment while avoiding magnetic interaction therebetween.

One of ordinary skill in the art would have been motivated to have had the combined magnetic head of Yip et al. (US 2004/0120061) further comprise a magnetic layer on an inner circumference face thereof as taught by Inagoya et al. (US 5,057,955) since such improves recording characteristics.

One of ordinary skill in the art would have been motivated to have had each gap material of Yip et al. (US 2004/0120061) be silica as taught by Inagoya et al. (US 5,057,955) since such is a notoriously old and well known gap material in the combined magnetic head art as shown by Inagoya et al. (US 5,057,955), and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art, *In re Leshin*, 125 USPQ 416 (CCPA 1960).

One of ordinary skill in the art would have been motivated to have had the head material of Yip et al. (US 2004/0120061) be amorphous alloy as taught by Inagoya et al. (US 5,057,955) since such is a notoriously old and well known head material in the combined magnetic head art as shown by Inagoya et al. (US 5,057,955), and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art. See *In re Leshin*, supra.

One of ordinary skill in the art would have been motivated to have had the non-magnetic body material of Yip et al. (US 2004/0120061) in view of Inagoya et al. (US 5,057,955) be any of AlTiC, calcium titanate, and non-magnetic ferrite since at least one of AlTiC, calcium titanate, and non-magnetic ferrite is a notoriously old and well known non-magnetic body material in the combined magnetic head art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art. See *In re Leshin*, supra.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Craig A. Renner
Primary Examiner
Art Unit 2627

CAR